

## INTRODUCTION

THE COMPLEAT TECHNICAL MANUAL ATTEMPTS TO SHOW AND EXPLAIN PROPER OPERATION AND SETTING OF WINC. RADIO EQUIPMENT... IN ORDER FOR THINGS TO WORK CORRECTLY, THESE INSTRUCTIONS MUST BE FOLLOWED.

# THE COMPLEAT TECHNICAL MANUAL

THIS MANUAL IS DESIGNED FOR USE BY STAFF, ENGINEERS, AND STATION STAFF. IT IS THE RESPONSIBILITY OF THE STATION STAFF TO USE THIS MANUAL IN THE OPERATION OF THE STATION. I HAD GREAT PLEASURE UNDERTAKING THIS PROJECT DURING MY 3 YEARS AS A DJ AND CHEF ENGINEER— SO... ENJOY.

ss  
Stephen Miller

BY

STEPHEN T MILLER 1991

## INTRODUCTION

THE COMPLEAT TECHNICAL MANUAL ATTEMPTS TO SHOW AND EXPLAIN PROPER OPERATION AND SETTING OF WMWC RADIO EQUIPMENT. IN ORDER FOR THINGS TO WORK CORRECTLY, THESE INSTRUCTIONS IN THIS MANUAL MUST BE FOLLOWED.

THIS MANUAL DOES NOT EXPLAIN OPERATION OF THE CD PLAYERS, TURNTABLES, OR SHOW HOW TO CUE RECORDS. THERE ARE INSTRUCTIONS ALREADY AVAILABLE FOR THOSE PROCEDURES. ALSO THIS MANUAL IS CURRENT AS OF JANUARY 1991. ANY CHANGES AFTERWARD SHOULD BE ADDED TO THE AMMENDMENT SECTION IN THE BACK.

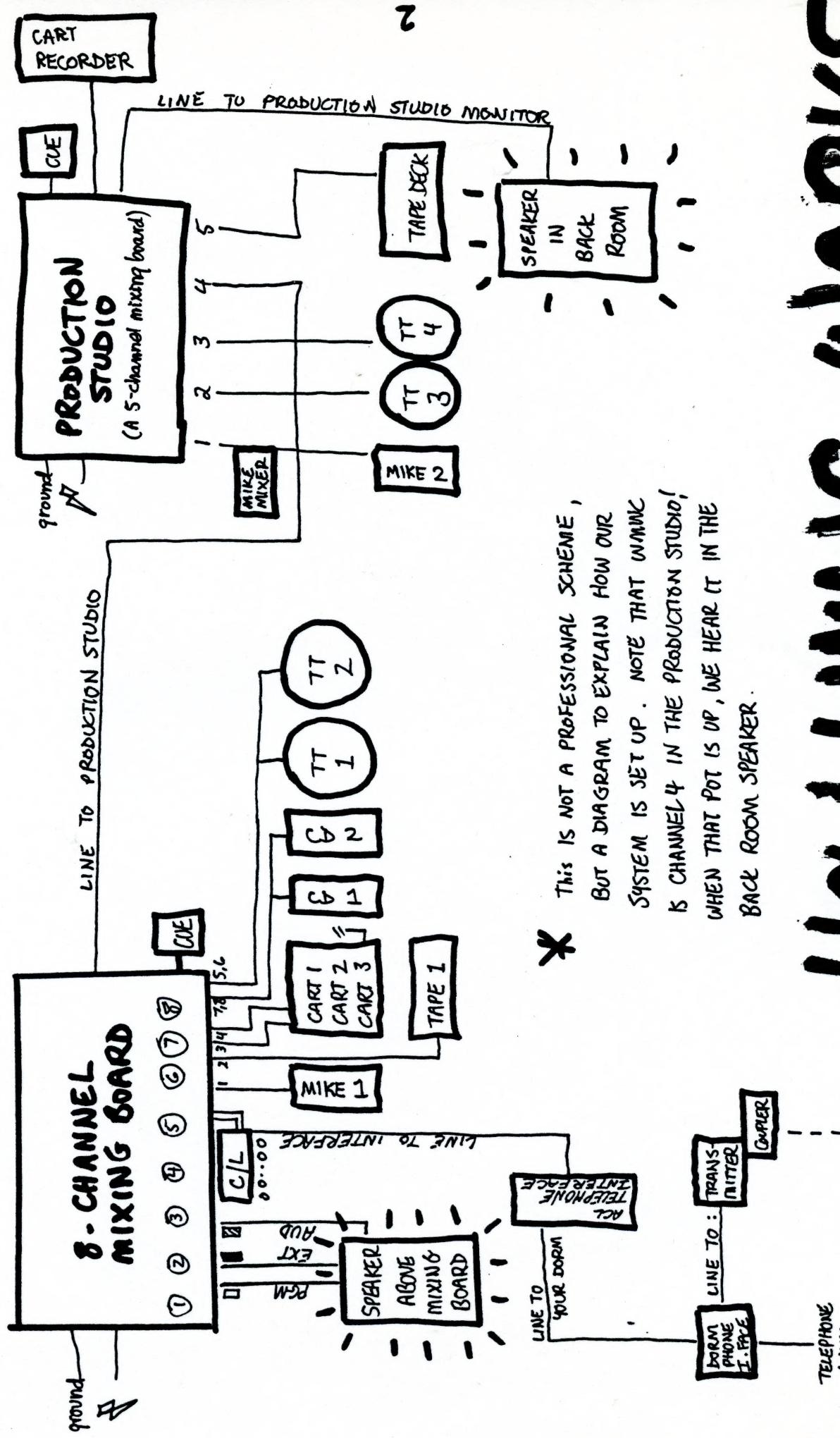
THIS MANUAL DOES NOT REPLACE THE DJ TRAINING MANUAL, BUT IS TO BE USED BY STAFF, ENGINEERS, AND ANY RESPONSIBLE DJS. THE CHIEF ENGINEER IS RESPONSIBLE FOR UPDATING THIS MANUAL IN THE FUTURE WHOEVER THAT MAY BE.

HOPEFULLY THIS WILL EXPLAIN AND RESOLVE ANY QUESTIONS ABOUT WMWC'S OPERATION. I HAD GREAT PLEASURE UNDERTAKING THIS PROJECT DURING MY 3 YEARS AS A DJ AND CHIEF ENGINEER--- SO... ENJOY



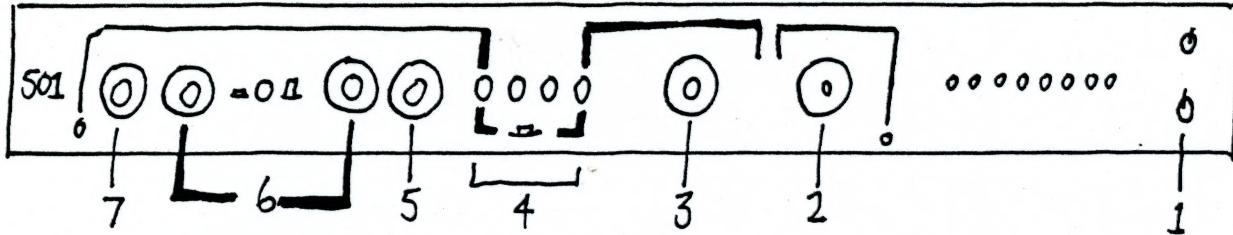
# How Music Works

YOUR RADIO



This IS NOT A PROFESSIONAL SCHEME,  
But A DIAGRAM TO EXPLAIN HOW OUR  
SYSTEM IS SET UP. NOTE THAT **WIMM**  
IS CHANNEL 4 IN THE PRODUCTION STUDIO,  
WHEN THAT POT IS UP, WE HEAR IT IN THE  
BACK ROOM SPEAKER.

## THE COMPRESSOR/ LIMITER

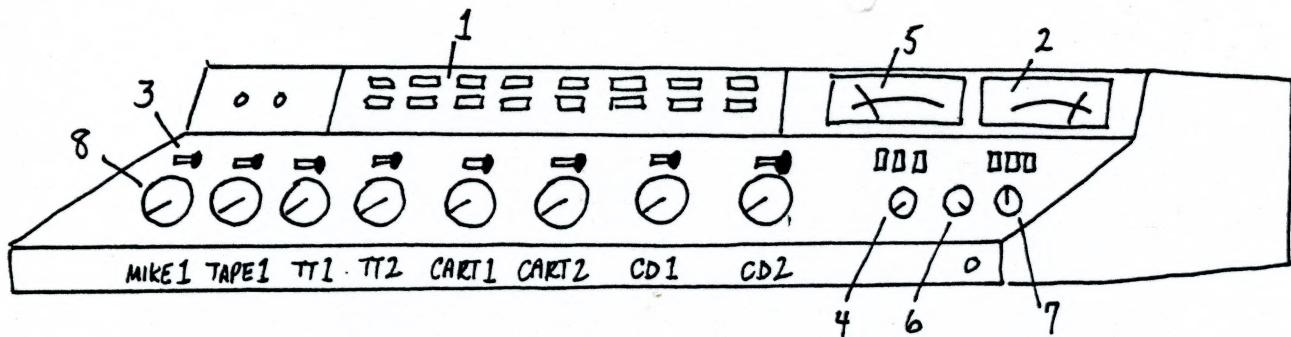


FIRST OF ALL, THIS SHOULD NOT BE TAMPERED WITH, HOWEVER IT MAY BE NECESSARY TO RE-ADJUST THE DIALS BECAUSE CURIOUS DJS TEND TO PLAY WITH THE DIALS WITHOUT REALIZATION THAT THEY ARE SCREWING UP WMWC'S AIR SOUND.

1. POWER -- ALWAYS TO BE KEPT ON EXCEPT DURING VACATION TIMES.
2. OUTPUT GAIN -- SET AT +12DB FOR GOOD OUTPUT TO DORMS
3. THRESHOLD-- SET AT 0DBM FOR NO LIMITING
4. RATIO -- SET AT  $\infty:1$  FOR UNLIMITED RATIO
5. WE ARE NOT USING STEREO SLAVE OR SIDECHAIN -- BOTH OUT, OTHER 2 IN
6. THE ATTACK/RELEASE ARE TO BE SET IN THE AUTOMATIC SETTING-- IN
7. THRESHOLD -- SET AT -20DBM

THESE SETTINGS WERE TESTED 1/23/91 AND ARE PUTTING OUT GOOD OUTPUT  
SUGGESTION- DON'T CHANGE THEM.

## THE 8-CHANNEL MIXING BOARD



THIS MIXING BOARD IS CONTROLLED BY THE DJ AND MIXES THEIR SHOWS. HERE ARE SOME FEATURES AND OTHER ASPECTS ABOUT IT:

1. EACH CHANNEL HAS A MASTER ON/OFF BUTTON, WHITE-ON, GRAY-OFF. FOR THAT CHANNEL TO EVEN PLAY MUSIC, THE WHITE BUTTON MUST BE PRESSED ON, THOUGH THEY SHOULD ALWAYS REMAIN ON, CHECK THOSE BUTTONS FIRST IF A CHANNEL IS NOT BROADCASTING. 9 OUT OF 10 CHANCES ARE THAT A GRAY BUTTON IS PRESSED IN-  
PRESS THE WHITE BUTTON TO FIX THE PROBLEM.

2. PGM METER -- THIS LETS YOU KNOW HOW LOUD YOUR MIXING. KEEP THE METER AT A READING OF 80-100 FOR BEST RESULTS.

3. TOGGLE SWITCHES --  MIDDLE, YOUR NOT USING OR BROADCASTING FROM THAT CHANNEL.

 PGM, YOU'RE BROADCASTING ON THAT CHANNEL

 AUD, FOR THE PURPOSE OF AUDITIONING, STUFF CAN BE PLAYED ON A., BUT IT WON'T BE BROADCASTED, NO NEED TO USE OFTEN.

4. MONITOR SPEAKER CONTROL -- THE DIAL IS YOUR VOLUME



 -PGM, WITH IT PRESSED, YOU WILL HEAR YOUR SHOW FROM THE MIXING BOARD.

 -AUD, YOU WILL HEAR ANYTHING PLAYED WITH A TOGGLE SWITCH IN NOT BROADCASTED.

I -EXT., YOU WILL HEAR WHAT YOUR  
E SHOW SOUNDS LIKE OVER THE AIR.

5. AUD METER -- WHEN PLAYING SOMETHING IN THE  SWITCH, THIS METER WILL JUMP. REMEMBER-- YOU MUST BE IN PGM, NOT AUD, TO BE BROADCASTING. WATCH THE PGM METER AND KEEP TOGGLES IN THE P POSITION TO BROADCAST.



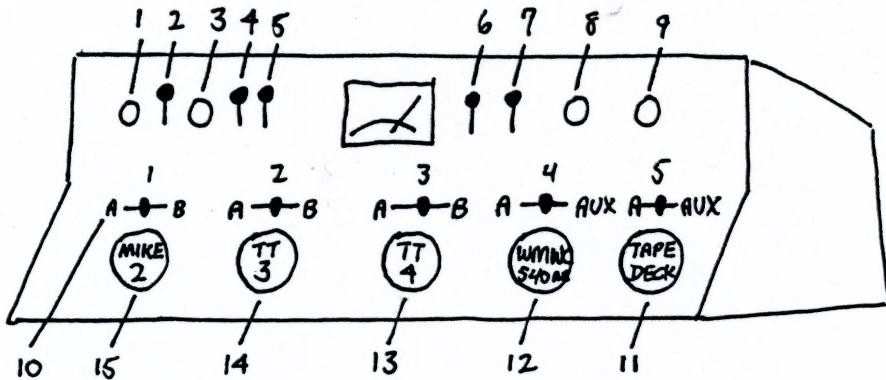
6. CUE SPEAKER VOLUME-- VOLUME CONTROL FOR CUEING RECORDS, ETC, ACCESIBLE BY TURNING POTS DOWN TO THE CUE POSITION

7. HEADPHONE SYSTEM -- MUCH SIMILAR TO MONITOR SPEAKER SYSTEM (4), WITH HEAD  PHONES USED, THE DIAL IS YOUR VOLUME, PGM LETS YOU HEAR YOUR SHOW, AUD IS NOT USED, AND CUE LETS YOU HEAR WHAT YOU WANT TO CUE UP.

8. POTENTIOMETER (POTS)-- THEY PLAY YOUR MUSIC. SET THEM NEAR THE 1 O'CLOCK POSITION FOR BEST RESULTS. ADJUST ACCORDING TO METER  LEVELS

NOTE: TO BE SURE YOUR BROADCASTING, FOLLOW STEP 4 ON THE MONITOR SPEAKER CONTROL SYSTEM. THE BLACK EXT BUTTON LETS YOU HEAR YOUR BROADCAST, THEREFORE, THE SPEAKER IN THE BACK ROOM IS NOT PROOF YOU ARE INDEED BROADCASTING. THAT SPEAKERS USE IS DISCUSSED LATER IN THIS MANUAL, SO DO NOT WORRY IF NO SOUND IS COMING OUT OF IT.

## THE PRODUCTION STUDIO 5-CHANNEL MIXING BOARD



THE PRODUCTION STUDIO IS SEPERATE AND DOES NOT BROADCAST. IT IS FOR MAKING CARTS AND AUDITIONING MATERIAL WHILE THE OTHER MIXING BOARD BROADCASTS. REFER TO SCHEME FOR UNDERSTANDING THIS.

THE SPEAKER IN THE BACK ROOM MONITORS SOUND COMING FROM THE STUDIO, THE REASON WMWC PLAYS THROUGH THIS IS BECAUSE THE 8-CHANNEL MIXING BOARD IS ONE OF THE CHANNELS ON THE STUDIO'S 5-CHANNEL MIXER. WE LEAVE THE WMWC POT UP WHEN NOT USING THE STUDIO, SO DJS CAN RECORD THEIR SHOWS. THEREFORE, THAT SPEAKER DOES NOT TELL YOU WHETHER YOU ARE BROADCASTING OR NOT. REFER TO 8-CHANNEL MIXING BOARD SECTION STEP 4 TO DETERMINE BROADCASTING STATUS.

### THINGS TO KNOW ABOUT OUR PRODUCTION STUDIO:

FIRST OF ALL, ANYTHING PLAYED ON THE STUDIO IS NOT ON THE AIR. YOU CAN HEAR WHAT YOU ARE PLAYING BY LISTENING TO THE BACK ROOM SPEAKER. YOU CAN PLAY TAPES USING THE DJ RECORDING DECK, PLAY RECORDS ON TT3 AND TT4, SPEAK THROUGH MIKE2, LISTEN TO WMWC 540AM, AND RECORD THESE THINGS.

WHEN THE STUDIO IS NOT BEING USED, CHANNEL 4 (WMWC) IS KEPT ON SO DJS CAN RECORD THEIR SHOWS. WHATEVER CHANNEL IS USED WILL BE HEARD THROUGH THAT SPEAKER.

1. MONITOR VOLUME -- THIS VARIES THE VOLUME OF THE BACK ROOM SPEAKER  
8 IS A GOOD SET LEVEL
2. MONITOR SELECT -- KEEP IT ON PGM, BECAUSE WE DO NOT HAVE EXT 1 AND 2 IN USE.
3. PHONE VOLUME -- VOLUME CONTROL FOR HEADPHONES
4. PHONE OUTPUT -- 3 CHOICES ARE AVAILABLE FOR YOU USE.
5. PHONE OUTPUT -- KEEP SET AT 1, THAT'S ALL WE HAVE.
6. AND 7. -- AUX SWITCHES ARE TO BE KEPT SET AT 4B AND 5B
8. CUE VOLUME -- THE SPEAKER IS INSIDE THE MIXER.
9. PGM MASTER -- CONTROLS OUTPUT FOR ALL 5 CHANNELS, KEEP SET AT 16 FOR  
BEST RESULTS.
10. TOGGLE SWITCHES -- THIS CAN BE TRICKY SO FOR EACH CHANNEL IT'S PURPOSE  
WILL BE EXPLAINED



CHANNEL 1-3: A POSITION WILL PLAY  
B POSITION WILL NOT PLAY



CHANNEL 4 : A POSITION WILL NOT PLAY  
AUX POSITION WILL PLAY



CHANNEL 5 : A POSITION WILL PLAY  
AUX POSITION WILL NOT PLAY

THEY WORK DIFFERENTLY THAN TOGGLES ON THE 8-CHANNEL MIXING BOARD.

POTS EXPLAINED::::

11. TAPE DECK - WITH THE POT BEFORE CUE, TOGGLE IN OFF(MIDDLE), THE DECK  
IS SET FOR RECORDING PURPOSES, (THIS ALSO WORKS FOR THE OTHER  
TAPE DECK ON THE 8-CHANNEL MIXER!!!)  
WITH THE POT AT 5 TO 6 AND TOGGLE AT A, THE DECK CAN BE USED  
TO PLAY CASSETTES. YOU'LL HEAR THEM AND BE ABLE TO PUT THEM  
ON CARTS.

12. WMWC 540AM -- WITH THE POT AT 5 , TOGGLE AT AUX, WMWC WILL BE PLAYED FOR THE PURPOSE OF RECORDING IT, ETC. WITH THE POT DOWN, YOU OBVIOUSLY WILL NOT HEAR IT BUT DON'T WORRY , IT IS THE 8-CHANNEL MIXER WHICH BROADCASTS IT.

13. TURNTABLE 4 -- WITH THE POT UP, TOGGLE AT A, RECORDS CAN BE PLAYED

14. TURNTABLE 5 -- SAME AS ABOVE

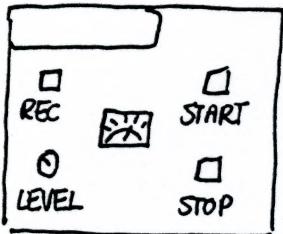
15. MICROPHONE 2 -- YOU CAN TALK IN A MIKE USING THIS POT. NOTE THAT BY SWITCHING THE TOGGLE TO TALK, SOUND WILL NOT BE HEARD THROUGH THE SPEAKER SO YOU WON'T FEEDBACK.

BASICALLY THE PRODUCTION STUDIO WORKS LIKE THE 8-CHANNEL MIXER, BUT IT DOES NOT BROADCAST. IT IS USED FOR AUDITIONING AND RECORDING MATERIAL. WHATEVER CHANNEL (1-5) IS USED WILL BE RECORDED.

THAT IS WHY IT'S A GOOD IDEA TO KEEP CHANNEL 4 ON, SO DJS CAN RECORD THEIR SHOWS USING THE TAPE DECK.

REMEMBER TO ALSO SET THE TAPE DECK SO IT CAN RECORD (STEP 11A)

## CART RECORDING INFORMATION



THE CART RECORDER RECORDS ANYTHING OFF THE PRODUCTION STUDIO  
SIMPLY DO THESE STEPS:

1. GET A CART AND CHECK HOW LONG IT IS TIMEWISE, SO YOU WON'T OVERLAP YOUR RECORDING.
2. ALWAYS ERASE BLANK OR USED CARTS BEFORE RECORDING WITH THE ERASER, BE SURE TO TAKE YOUR TIME ERASING, PULLING THE CART SLOWLY AWAY WITH THE ERASER STILL ON.
3. PUT CART IN SLOT, PRESS REC. NOTE YOUR RECORDING LEVEL THROUGH THAT TINY METER. DO NOT ADJUST THE LEVEL USING THE DIAL ON THE RECORDER, INSTEAD USE THE POT YOUR RECORDING COMES FROM IN THE PRODUCTION STUDIO, THAT DIAL IS SET AND TOO SENSITIVE TO BE USED FOR THAT PURPOSE.
4. WITH REC ALREADY PRESSED, PRESS START TO BEGIN RECORDING.
5. PRESS STOP TO END RECORDING
6. REMOVE CART, PUT IN REGULAR CART MACHINE AND PRESS PLAY. THIS WILL ALLOW THE CART TO SET ITSELF TO BEGIN AT THE STARTING POINT.

IF YOU MESS UP WHILE RECORDING, JUST PRESS STOP, ERASE THE CART AGAIN, PUT IT BACK IN THE SLOT, PRESS REC, CHECK LEVEL, AND START RECORDING BY PRESSING START.

## A NOTE ABOUT TRANSMITTERS

REFER TO TECH NOTEBOOK FOR INFO ON TRANSMITTER LOCATIONS AND SETTINGS.

SOMETIMES IF ONE IS NOT WORKING, IT MAY BE SEVERAL REASONS WHY. JUST TURN A NON-FUNCTIONING TRANSMITTER/COUPLER OFF AND MABYE THE DORM WILL PICK UP A SIGNAL FROM ANOTHER DORM.

EACH DORM HAS A TELEPHONE INTERFACE NETWORK. THIS IS WHERE ALL TELEPHONES ARE HOOKED UP FROM THE OUTSIDE LINES. EACH PHONE HAS A HOOKUP, WMWC HAS A HOOKUP FROM A LINE COMING FROM ACL'S INTERFACE (CHECK SCHEME). SOMETIMES THE C&P GUYS WILL CUT WMWC'S LINE AND USE OUR HOOKUP FOR ANOTHER PHONE. TOTALLY UNCOOL, THE PROBLEM THEN HAS TO BE CORRECTED THROUGH THE ADMINISTRATION. ANYWAY, THAT LINE LEADS TO THE TRANSMITTER/COUPLER IN YOUR DORM.

A MINI SPEAKER AMP WITH TWO ALLIGATOR CLIPS WILL ALLOW YOU TO HEAR THE SIGNAL IN THAT PHONLINE FROM ACL AND HEAR WHERE ITS HOOKUP IS LOCATED. (YOU CAN ALSO HEAR OTHER HOOKUPS TOO -- BUT LISTENING TO PEOPLES CONVERSATIONS IS NOT TOO COOL EITHER, BUT I THOUGHT I'D MENTION IT ANYWAY!)

SET THE TRANSMITTER/COUPLER BY REFERRING TO THE SOUND OF A CLOCK RADIO PLUGGED IN TO AN OUTLET NEARBY. THOUGH IT IS TEMPTING, DO NOT SET THE AUDIO LEVEL TOO HIGH, IT COULD BURN OUT THE TRANSMITTER. STUDENTS CAN TURN THEIR VOLUMES UP, JUST SET THE AUDIO TO AN OCCASIONAL FLICKER. SET THE COUPLER TO THE INSTRUCTIONS ON THE INSIDE FLAP.

REMEMBER-- CARRIER CURRENT CAN BE TRICKY AND WON'T SOUND GOOD IN ALL AREAS NO MATTER HOW WELL IT'S SET, IT WILL NEVER SOUND LIKE FM DIGITAL DOLBY STEREO EITHER. SO JUST SET THINGS THE BEST YOU CAN. MOST OF MY NOTES IN THE TECH MANUAL ARE ACCURATE TO THE BEST RECEPTION POSSIBLE. JUST REFER TO THEM.

I CAN BE CONTACTED FOR FUTURE HELP THROUGH THIS ADDRESS:

STEPHEN MILLER

P.O. BOX 986

FRONT ROYAL, VA 22630

(703)635-5182

YOU WILL THEN BE REFERRED BY MY PARENTS TO MY CURRENT ADDRESS AND PHONE#,

#### AMMENDMENT SECTIONS

ANY CHANGES IN THE TECH MANUAL YOU HAVE JUST READ SHOULD BE NOTED HERE